

The Government of Canada (to whom I had the honour of presenting a report on this preliminary deep-sea dredging-expedition, with special reference to facts collected bearing on the fisheries) has decided that the prosecution of these inquiries shall be continued. A vote of a small sum of money has been passed, which will, it is hoped, defray the necessary expenses of the expedition. I propose to devote the months of July and August of the present year to endeavouring to dredge in the greatest depths of the River and Gulf of St. Lawrence, particularly in the deepest place to the west of Newfoundland. Between the east point of Anticosti and the Magdalen Islands, about halfway, and in an easterly direction towards Newfoundland, is the deepest part of the gulf. The bottom, at this locality, for several miles (nearly two meridians) has a depth of 313 fathoms. Last year we were unfortunate; for as soon as we were fairly on the ground, and had got every thing in readiness, a stiff north-west gale sprung up, which lasted sixty hours, and made dredging quite impracticable. It is hoped that in this respect our efforts will be more successful during the present season.

Montreal, July 12, 1872.

XLIX.—*Descriptions of new Myriopoda of the Family Glomeridæ*. By ARTHUR GARDINER BUTLER, F.L.S., F.Z.S., &c.

[Plate XVIII.]

THE millipedes treated of in the present paper are all in the collection of the British Museum.

#### CHILOGNATHA.

Family *Glomeridæ*\*, Gervais.

Genus *ZEPHRONIA*, Gray.

1. *Zephronia chitonoides*, n. sp. Pl. XVIII. figs. 2, 2 a.

Brownish testaceous, inclining to castaneous; head and nuchal plate darker.

Head shining, external area coarsely rugose, central area coarsely punctured, inner margin bearing about fourteen minute teeth; dorsal segments highly polished, covered with exceedingly indistinct, almost obsolete, granulations; external margin of first segment rugose; last segment very oblique; segmental lateral wings much incurved in dried specimens, very oblique.

\* Variously designated *Zephroniidae*, *Spherotheridae*, and *Polyzoniidae*! (Wood, Proc. Acad. Nat. Sci. Philad. 1865, p. 172). In his 'Aptères,' M. Gervais restricts this family to the three genera *Polyzonium*, *Siphonotus*, and *Siphonophora*.

Length 1 inch 7 lines to 1 inch 3 lines; width at first dorsal segment 9 lines.

*Hab.* Madras and Ceylon (*Dr. A. Smith*). Four specimens. B.M.

Allied to *Z. Brandtii* of Humbert, but differing in the number of teeth on the back of the head, the projecting last segment, the incurved character of all the segments, the wings of which are narrower, the relatively narrower and more elongate character of the entire animal. We have *Z. Brandtii* under two distinct types of coloration; the darker form appears to be the adult type.

2. *Zephronia rugulosa*, n. sp. Pl. XVIII. fig. 1.

Very near to the preceding, but pale testaceous; the head, nuchal plate, and hind margins of dorsal segments olivaceous brown.

Head glabrous, external third very coarsely and densely punctured, inner margin bearing about ten small teeth; nuchal plate and dorsal segments distinctly rugose and sparsely punctured all over; segmental wings less oblique and broader than in the preceding species.

Length 7 lines; width 4 lines.

*Hab.* Ceylon (*R. Templeton*). One specimen. B.M.

3. *Zephronia noticeps*, n. sp.

Allied to *Z. chitonoides*. Brownish olivaceous; the eyes, antennæ, legs, and nuchal plate (except central area) green; front of head inclining to orange, central area crossed by three oval red spots.

Head glabrous, somewhat pilose in front, coarsely but sparsely punctured; hind margin bearing about eight small teeth; nuchal plate surrounded by a series of coarse punctures, several also scattered over its central area; dorsal segments dull, almost imperceptibly granulose, the last segment perceptibly punctured, especially behind; segmental wings almost as in preceding species.

Length 8 lines; width 4 lines.

*Hab.* Ceylon (*E. W. Janson*). One specimen. B.M.

4. *Zephronia corrugata*, n. sp.

Allied to *Z. inermis*, but paler in colouring, and with all the dorsal segments coarsely rugose.

Length 1 inch 8 lines to 7 lines; width 9 lines to 3 lines.

*Hab.* Ceylon (*R. Templeton*). Four specimens. B.M.

Possibly only a variety of *Z. inermis*, of which we have four examples from Madras and Ceylon.

5. *Zephronia leopardina*, n. sp.

Allied to *Z. inermis*, but pale testaceous, blotched all over with castaneous, and covered with minute, scarcely perceptible hairs; puncturing almost precisely as in *Z. inermis*.

Length 8 lines; width  $4\frac{1}{2}$  lines.

*Hab.* Ceylon (*R. Templeton*). One specimen. B.M.

6. *Zephronia tigrina*, n. sp. Pl. XVIII. fig. 7.

Allied to *Z. corrugata*. Castaneous, with each of the dorsal segments, excepting the first and last, crossed by a band of ochre-yellow; head and front of first dorsal segment pitchy; hind margins of all the dorsal segments pitchy.

Head and nuchal plate covered with coarse punctures; dorsal segments very rugose; wings not angulated, but obliquely rounded off in front, and with well-developed anterior ridge.

Length 1 inch 7 lines; width 9 lines.

*Hab.* "East Indies" (*S. Stevens*). One specimen. B.M.

7. *Zephronia zebraica*, n. sp. Pl. XVIII. fig. 4.

Allied to *Z. tigrina*. Ochreous, head pitchy; front of nuchal plate and front margins of all the dorsal segments black; two irregularly triangular pitchy patches towards the front of last segment.

Head densely and coarsely punctured in front, otherwise sparsely punctured; a row of well-defined punctures along front of nuchal plate; all the dorsal segments sparsely punctured in front, last segment punctured all over.

Length 1 inch 11 lines; width 11 lines.

*Hab.* Near Bombay (*Col. Whitehill*). One specimen. B.M.

8. *Zephronia nigrinota*, n. sp. Pl. XVIII. fig. 9.

Allied to the preceding species. Dark olivaceous or castaneous, with dorsal segments slightly paler in front, and dotted here and there with black and sometimes with ochreous spots; head and nuchal plate pitchy.

Head glabrous, densely and coarsely punctured in front, irregularly and sparsely punctured behind; nuchal plate exhibiting a few coarse punctures here and there; dorsal segments almost imperceptibly granulose; segmental wings as in the preceding species.

Length 1 inch 3 lines to 1 inch 2 lines.

*Hab.* Sikkim (*Dr. Hooker*); Assam (*Warwick*). Six specimens. B.M.

9. *Zephronia lutescens*, n. sp.

Testaceous, sometimes clouded with olivaceous; head and nuchal plate pale olive and covered with short bristles.

Head coarsely punctured, external third densely punctured; nuchal plate with a row of coarse punctures in front; dorsal segments (excepting the front edge of the wings and the posterior portion of the last segment, which are somewhat rugose and pilose) polished and without punctuation.

Length 10 to  $8\frac{1}{2}$  lines; width  $5\frac{1}{2}$  to 5 lines.

*Hab.* India (*Mrs. Hamilton*). Two specimens. B.M.

Allied to *Z. glabrata* of Newport; but larger, broader, and with the nuchal plate and dorsal segments much less punctured.

#### 10. *Zephronia ignobilis*, n. sp.

Testaceous, clouded with dusky olivaceous.

Head, nuchal plate, and dorsal segments densely punctured all over and clothed with short hair; segmental wings slightly curved and very pointed.

Length  $4\frac{1}{2}$  lines; width 2 lines.

*Hab.* Java (*Argent*). One specimen. B.M.

Allied to *Z. Lichtensteinii*; but without the shining dorsal ridge.

#### 11. *Zephronia pilifera*, n. sp.

Brownish testaceous, spotted here and there with black, and clothed with short hairs; head and nuchal plate pitchy.

Head coarsely punctured, more densely in front; nuchal plate coarsely punctured; dorsal segments finely and densely punctured; wings curving slightly backwards.

Length 9 lines; width  $4\frac{1}{2}$  lines.

*Hab.* Ceylon (*R. Templeton*). One specimen. B.M.

Also allied to *Z. Lichtensteinii*. It differs also from the preceding species in size, colour, and the form of the segmental wings.

#### 12. *Zephronia innominata*, Newport, MS. Pl. XVIII. fig. 8.

Testaceous, eyes and antennæ greenish.

Head coarsely rugose and punctured all over; nuchal plate densely and coarsely punctured; dorsal segments densely but minutely punctured, their external edges minutely pilose.

Length 1 inch  $3\frac{1}{2}$  lines; width 7 lines.

*Hab.* Philippines (*Cuming*). Two specimens. B.M.

Nearly allied to *Z. castanea* of Newport; but narrower, paler in colour, with broader terminal joint to antenna, and more distinctly punctured dorsal segments.

#### 13. *Zephronia sulcatula*, n. sp. Pl. XVIII. fig. 5.

Allied to *Z. inermis*, rather paler and duller.

Head flatter than in *Z. inermis*, punctured in the same way;

nuchal plate without punctures; dorsal segments, excepting the last (which is delicately rugose), without punctures; all, excepting the first and last, longitudinally multisulcate.

Length 1 inch 11 lines to 1 inch 4 lines; width 1 inch to 9 lines.

*Hab.* Borneo (*W. Jeakes*). Eight specimens. B.M.

One example shows scarcely a trace of the sulcations on the dorsal segments.

### Genus SPHÆROTHERIUM, Brandt.

#### 1. *Sphærotherium latum*, n. sp. Pl. XVIII. fig. 3.

Castaneous, dotted here and there with blackish; mouth black; eyes crystalline white.

Head rugose and densely punctured in front, coarsely but sparsely punctured in the centre; nuchal plate sparsely punctured; dorsal segments delicately rugose, last segment also sparsely punctured.

Length 2 inches 1 line; width 1 inch 3 lines.

*Hab.* North Madagascar (*L. Bouton*). One specimen. B.M.

Allied to *S. Actæon* of White; but smaller, paler in colour, more depressed in outline, less rugose, and with lateral wings of segments less curved. The antennæ in *S. Actæon* are broken, which accounts for Mr. White not having more than hinted at its genus by comparing it with *S. hippocastanum*\*.

#### 2. *Sphærotherium Neptunus*, n. sp. Pl. XVIII. fig. 6.

Olive-green, clouded and blotched with pale ochreous; the external margins of the segments dark ochreous. *Variety* pitchy, clouded with castaneous; the external margin of the segments castaneous.

Head coarsely and densely punctured in front, sparsely behind; nuchal plate with row of coarse punctures in front and two or three punctures behind; dorsal segments smooth and shining, the last sparsely punctured.

Length 2 inches to 4½ lines; width 1 inch to 2 lines.

*Hab.* Madagascar (*Madame Ida Pfeiffer*); Port Natal (*Gueinzius*). Eight specimens. B.M.

Allied to *S. rotundatum* of Brandt, and agrees in many respects with the description of *S. Titanus*; but the last segment is not peculiar in shape.

\* *A Zephronia* (!) in the British Museum agrees pretty well with the description of the latter species; it will, however, doubtless prove to be distinct when an opportunity occurs of comparing it with authenticated examples of that species.

3. *Sphærotherium fraternum*, n. sp.

Closely allied to the preceding, but with head and nuchal plate coarsely punctured all over and clothed with short hairs, the dorsal segments exhibiting a number of small, rounded, whitish pustules.

Length  $8\frac{1}{2}$  lines; width 5 lines.

*Hab.* Victoria, Australia (*Dr. Howitt*). One specimen. B.M.

4. *Sphærotherium nigrum*, n. sp. Pl. XVIII. fig. 11.

Shining black, antennæ clothed with reddish hairs.

Head glabrous, coarsely and densely punctured in front, sparsely behind; nuchal plate delicately rugose and coarsely but sparsely punctured; dorsal segments coarsely rugose and punctured, last segment densely punctured, its outer edge curving outwards so as to form a distinct projecting rim; lateral wings very slightly curved.

Length 1 inch 4 lines; width 8 lines.

*Hab.* South Africa (*Sir Andrew Smith*). One specimen. B.M.

A remarkable species, coming nearer to *S. grossum*, Koch, than to any other described form.

5. *Sphærotherium sinuatum*, n. sp. Pl. XVIII. fig. 10.

Closely allied to *S. dorsalis*, Gervais (*Zephronia pulverea*, White; *Sphærotherium retusum*, Koch), but smaller, without dorsal ridge, the punctuation of the head and nuchal plate finer, the lateral segmental wings curving distinctly backwards, and the depression of last segment reduced to a slight sinus.

Length  $7\frac{1}{2}$  lines; width 4 lines.

*Hab.* Sarawak (*Wallace*). One specimen. B.M.

L.—On *Coccoliths* and *Rhabdoliths*. By OSCAR SCHMIDT\*.

[Plates XVI., XVII.]

I MUST preface my communications upon *Coccoliths* and a newly discovered kind of organized corpuscles from the *Bathybius*-mud, which I call *Rhabdoliths*, with a short report upon the course of that expedition in the lower part of the Adriatic Sea during which I first made a close acquaintance with these exceedingly remarkable corpuscles.

By working up the sponges captured during the sounding and surveying of the Florida coast, and incited by the English

\* Translated by W. S. Dallas, F.L.S., from the 'Sitzungsbericht der k. k. Akad. der Wissenschaften in Wien,' Bd. lxii. (1870) Abth. i. pp. 669-682.